Sonic Boom Tests Fail To Win Any Boosters

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Insofar as sonic booms are concerned, years of familiarity will not produce affection.

Heretofore, this conclusion was scorned by the experts. Yesterday, the Government published it after pelting 393 volunteers with 331 booms of wide-ranging intensity and studying the subjects' reactions.

Volunteers were split into two test groups—residents of Edwards Air Force Base, Calif., who had been exposed to four to eight booms per day for the past two years, and citizens of Redlands and Fontana, Calif., who were unfamiliar with the boom.

A delta-wing B-58 bomber laid down a boom of precisely the same strength expected from supersonic transports of the future. When outdoors, 33 per cent of the veteran boom-listeners called the shock wave irritating. The comparable figure in the novice group was 39 per cent.

When queried indoors, 27 per cent of the Edwards residents found booms of SST strength to be irritating. Among novices the figure climbed to 40 per cent.

Five types of supersonic military aircraft boomed the Air Force's highly instrumented, experimental village at Edwards AFB. Subjects reported no significant difference in the noxiousness of one plane's boom as opposed to the boom of another, so long as the booms were of equal strength.

It had been hoped that aircraft design refinements could render some booms less irritating than others, even at the same strength.

In setting a ceiling on the noise jetliners could make at local airports, the Port of New York Authority came up with a measurement called the "perceived noise decibel" or PNDB, which measures not just the intensity of sound but its subjective irritability. Jetliners operating through New York Port Authority airports cannot generate more than 112 PNDB.

Subjects unfamiliar with aircraft noises, when indoors, found the SST-strength booms as irritating as jet-liner noise levels of 118 to 119 PNDB. Said the report: "Noises having these PNDB values would be generated on the ground directly under the flight path of a turbofan aircraft at an altitude of 300 or 600 feet."

The same group found the boom tolerable when outdoors, while the Edwards AFB residents found it tolerable when inside or outside their "typical" test house.